

551753

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 October 2004 (21.10.2004)

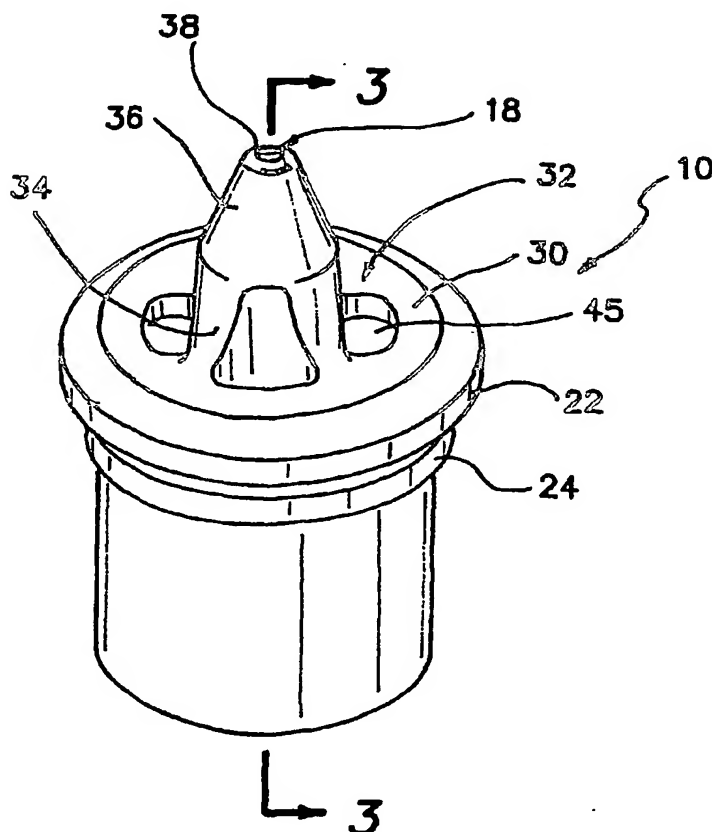
PCT

(10) International Publication Number
WO 2004/089805 A2

- (51) International Patent Classification⁷: B67D
- (21) International Application Number: PCT/US2004/009746
- (22) International Filing Date: 31 March 2004 (31.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/458,686 31 March 2003 (31.03.2003) US
- (74) Agent: UXA, Frank, J.; Stout, Uxa, Buyan & Mullins, LLP, 4 Venture, Suite 300, Irvine, California 92618 (US).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,

[Continued on next page]

(54) Title: MULTI-DOSE LIQUID DISPENSING ASSEMBLY



(57) Abstract: A dispensing assembly to be coupled to a resilient-walled vessel includes a tip defining an unobstructed bore positioned to be in direct communication with the vessel when coupled to the vessel. The tip includes a valve structured to allow drop-wise liquid dispensing when sufficient pressure is applied to the resilient wall of the vessel, and to prevent liquid back flow at zero as well as near zero pressure differentials across the valve. The assembly also includes at least one vent opening structured to allow air into and out of the vessel, and at least one filtration element extending across the vent opening. A cap having an antibacterial liner is also provided. The combination of the filtration element, the antibacterial liner in the cap, and the ability of the valve to prevent back flow enables the solution in the vessel to remain sterile, with no need for preservatives.

WO 2004/089805 A2



GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *without international search report and to be republished upon receipt of that report*